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PROVISIONAL SPECIFICATION.



Improvements in or relating to Boots and Shoes.

We, I. T. S. RUBBER COMPANY LIMITED, a Company incorporated according to British Law, of Petersfield, in the County of Hants, and FREDERICK WILLIAM EAST, Works Manager, of the same address, British Subject, do hereby declare the nature of this invention to be as follows:—

This invention refers to improvements in or relating to boots and shoes, and it has more particular reference to studs for the soles and heels of football boots and the like.

Heretofore it has been the common practice in connection with football boots and the like, to provide the soles and heels thereof with nailed-in leather studs, the nails passing through the several lifts of which the studs are usually formed and entering the leather sole. Some considerable difficulty, however, is experienced in obtaining a proper fixing when the soles of such boots are formed of rubber or the like, and it is with the object of avoiding this disadvantage and of enabling the studs to be firmly secured thereto that the present invention has been devised.

Now according to the present invention we provide the studs with a projecting portion or shank which is adapted to pass through and to co-operate with a metal plate embedded, during the process of manufacture, in the sole and/or heel portion of the boot.

In one convenient manner of carrying the present invention into effect, the studs may conveniently be formed of vulcanised rubber or the like and they may be provided with a projecting screw stem the inner portion of which is suitably shaped and embedded in the material thereof so as to provide a firm fixing and prevent rotation. The projecting stem is screw-threaded and is adapted to co-operate with an embedded plate or ferrule provided in the sole or heel portion of the boot, the plate also being suitably shaped

or headed so as to give it a firm fixing in the material of the sole or heel. The plate is moulded flush with the outer surface of the sole and is perforated and internally screw-threaded so as to provide a screwed socket with which the projecting screwed stem or shank on the stud is adapted to co-operate. The screwed plate or ferrule is preferably of less thickness than the sole or heel plate in which it is embedded, so as to leave a portion of the rubber thereof unperforated on the inner side, thus preventing the ingress of water to the boot. The flush surface of the embedded plate or ferrule and the co-operating surface on the underside of the stud are inscribed with a radially serrated surface or its equivalent so as to provide an interlocking engagement. In the case of a football boot, a plurality of such screwed-in studs would be provided, two conveniently being arranged one on each side of the heel, and four at suitable distances apart on the sole.

The studs themselves may be of cylindrical formation having plain outer surfaces, or they may be otherwise suitably shaped or roughened or provided with projections to increase the grip. In the case of Alpine or other sports boots, the studs may be provided with projecting pins of metal or the like, or, alternatively, the whole of the stud may be formed of metal.

By this means it will be found to be possible to provide a fixing arrangement whereby studs can be securely attached to the soles and heels of football and like boots. A further advantage accompanying the use of the improved studs is that they can be removed when worn and replaced by new ones, without in any way damaging or impairing the strength and durability of the sole.

Dated this 27th day of May, 1929.

F. J. CLEVELAND & Co.,
29, Southampton Buildings, Chancery Lane, London, W.C.2,
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in or relating to Boots and Shoes.

We, I. T. S. RUBBER COMPANY LIMITED, a Company incorporated according to British Law, of Petersfield, in the

County of Hants, and FREDERICK WILLIAM EAST, Works Manager, of the same address, British Subject, do hereby declare

the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to boots or shoes for football or other sports wear or the like, of the kind having detachable or renewable studs.

10 In the known construction of boots and shoes having detachable studs, the soles are of leather and screwed socket members adapted to engage the screwed ends of the studs, which may be provided with rubber heads, are held in position by 15 means of flanges provided on the socket members and adapted to lie between the layers of leather forming the sole and to be fixed by means of nails, screws or the like. It has further been proposed to provide 20 interengaging teeth on the stud and socket members by means of which the studs are adapted to be locked in position.

25 According to the present invention, we provide a boot or shoe for football or other sports wear or the like in which the sole or tread portion thereof is formed of vulcanised rubber, or similar substance capable of being moulded and vulcanised, 30 having a plurality of metal "inserts" or ferrules embedded or incorporated therein in such manner as to be firmly and non-rotatably held, the "inserts" or ferrules being screw-threaded for engagement with the screwed shanks provided on the detachable or renewable 35 studs.

40 In order that the present invention may be clearly understood and more readily carried into effect, it is hereinafter described with reference to the accompanying drawings, in which:—

45 Figure 1 is a plan view of a sole for a football boot showing one of the studs removed;

Figure 2 is a side elevation thereof;

Figure 3 is a detail sectional side elevation of a portion of the tread showing the ferrule embedded therein;

50 Figure 4 is a corresponding plan view thereof;

Figure 5 is a sectional perspective view of one of the studs;

Figure 6 is a plan view thereof; and

55 Figures 7, 8 and 9 are side elevations of different sizes of studs suitable for different conditions.

60 As shown, we provide the studs 10 with a projecting portion or shank 11 which is adapted to co-operate with a metal ferrule 13 which may have a perforated flange, as shown, and may be embedded, during the process of manufacture, in the sole and/or heel portion of the boot. The studs 10 65 conveniently may be provided with heads

of vulcanised rubber or similar substance capable of being moulded and vulcanised and with a projecting screw stem 11 the inner portion of which is suitably shaped, as at 12, and embedded in the material of 70 the head so as to provide a firm fixing and prevent relative rotation. The projecting stem 11 is screw-threaded and is adapted to co-operate with an embedded ferrule 13 provided in the sole or heel portion 14 of the boot, the ferrule 13 also 75 being suitably shaped or headed, as at 15, or perforated, so as to give it a firm fixing in the material 14 of the sole or heel. If desired, the ferrules may be made square, 80 or of hexagonal or other shape, and they may be punched out with projections to prevent turning and to secure a good anchorage. The ferrule 13 is preferably moulded flush with or just below the outer 85 surface 16 of the sole 14 and is perforated, as at 17, and internally screw-threaded so as to provide a screwed socket 18 with which the projecting screwed stem or shank 11 on the stud 12 is adapted to co-operate. 90 If desired, the screwed ferrule 13 may be of slightly less thickness than the sole or heel lift 14 in which it is embedded, so as to leave a portion of the rubber or fabric 22 thereof unperforated on the inner side, 95 thus preventing the ingress of water to the boot. The flush surface of the embedded ferrule and/or the surrounding surface of the sole 14 and/or the co-operating surface 19 on the base or underside of the stud 100 are formed so as to provide an interlocking engagement. To this end radial serrations or ribs 20, 21 may be formed or moulded on the said co-operating surfaces. 105 In the case of a football boot, a plurality of such screwed-in studs 10 would be provided, two conveniently being arranged, as shown, one on each side of the heel, and four at suitable distances apart on the 110 sole.

The studs 10 themselves may be conic frustums or of cylindrical formation having plain outer surfaces, or they may be otherwise suitably shaped or roughened or provided with projections to increase the 115 grip. In the case of Alpine or other sports boots or shoes, the studs may be provided with projecting pins of metal or the like, or, alternatively, the whole of the stud may be formed of metal. 120

The soles 14 may, as shown, be backed by canvas 22 which may be proofed with rubber, or otherwise treated to secure 125 adhesion to give rigidity to the sole and may be used in multiple plies.

In a slightly modified construction it may be found desirable to make the ferrules in the form of eyelets which are adapted to be inserted and fixed in place in the soles after they are vulcanised, the 130

eyelets being screw-threaded as before, to engage the screwed shanks of the removable studs and also having radial ribs or serrations on their outside surface adapted to co-operate with the corresponding ribs or serrations formed on the bases of the studs.

By this invention it will be found to be possible to provide a fixing arrangement whereby studs can be securely attached to rubber soles and heels of football and like boots. A further advantage is that the studs can be removed when worn and replaced by new ones, without in any way damaging or impairing the strength and durability of the rubber sole. Further, in the case of football boots, the studs could be made of different sizes, as indicated in Figures 7, 8 and 9, those shown in Figure 7 being suitable for Association Football in dry weather; those in Figure 8 for Association Football in wet weather; and those shown in Figure 9 being best suited for Rugby Football. In some cases sets of studs of different sizes may be provided for use in connection with a single pair of boots, the sets being exchanged to suit the play or weather or the purpose for which the boots are to be used. Where a more permanent fixing of the studs is desired, cement or rubber solution may be used when securing these in place. The interengaging metal portions may be made of rustless or other steel or metal, as may be found to be most suitable in practice or desirable from a commercial or economical point of view.

In some cases, in order to afford further support to the studs and in order to prevent their being kicked or broken off, a buttressed ridge may be provided on the surface of the sole in order to provide a depression into which the base of the stud is adapted to nest. Alternatively, the depression or circular cavity may, if desired, be formed in the thickness of the sole itself. Both these arrangements also serve to provide a more watertight junction between the stud and the sole.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A boot or shoe for football or other sports wear or the like, in which the sole

or tread portion thereof is formed of vulcanised rubber or similar substance capable of being moulded and vulcanised having a plurality of metal "inserts" or ferrules embedded or incorporated thereinto in such manner as to be firmly and non-rotatably held, the "inserts" or ferrules being screw-threaded for engagement with the screwed shanks provided on the detachable or renewable studs.

2. A boot or shoe for football or other sports wear or the like, according to Claim 1, in which the base portions of the screwed studs are provided with surfaces formed to interengage or interlock with co-operating portions of the tread, for the purpose described.

3. A boot or shoe for football or other sports wear or the like, according to Claim 1 or Claim 2, in which the "insert" or ferrule is provided with a headed and perforated metal plate adapted to give a firm fixing in the sole.

4. A boot or shoe for football or other sports wear or the like, according to any of the preceding claims, in which the studs are provided with heads of rubber or similar substance capable of being moulded and vulcanised and are formed with a screw-threaded shank or projecting stem which terminates in a suitably shaped part moulded into the head.

5. A boot or shoe for football or other sports wear or the like, according to any of the preceding claims, in which radial ribs or serrations are moulded upon the tread portion of the sole or the like around the screw-threaded hole in the "insert" or ferrule, and in which corresponding projections are formed on the co-operating faces of the studs so as to interlock and provide a firm fixing.

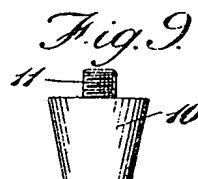
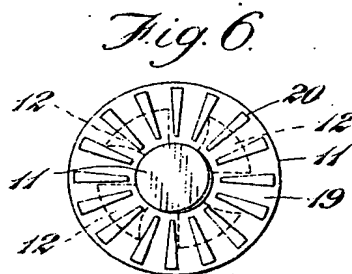
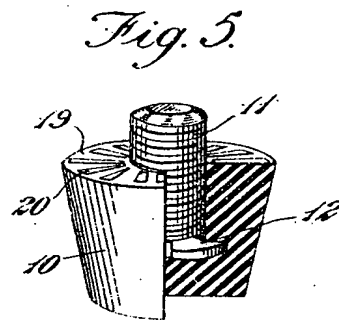
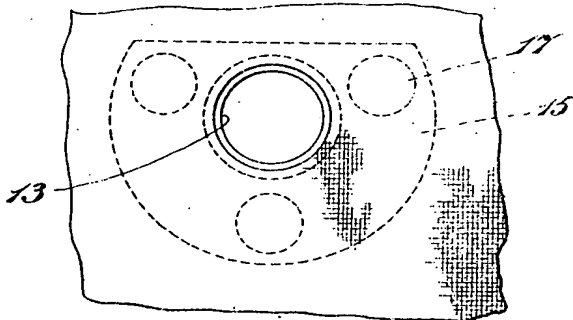
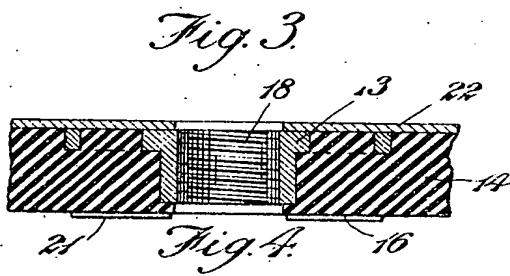
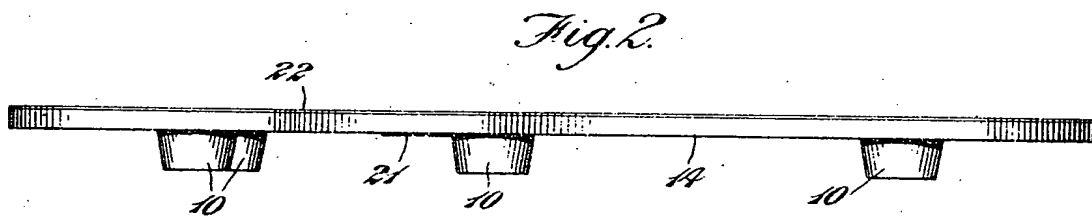
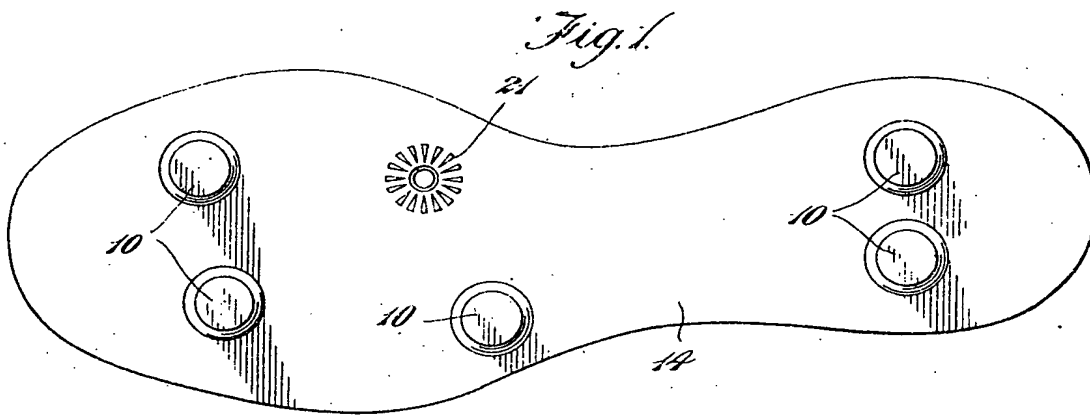
6. The improved boot or shoe for football or other sports wear or the like, having a sole of rubber or similar substance capable of being moulded and vulcanised, and removable studs, substantially as described with reference to the accompanying drawings.

Dated this 9th day of July, 1929.

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